4.3 FORESTRY RESOURCES

This section describes existing forestry resources in the project area, presents applicable government regulations related to forest/tree removal and power line vegetation management, identifies forest zoning designations and uses in the project area, and presents an analysis of potential project impacts under each project alternative. This section focusses on the potential loss or conversion of forest land, and potential rezoning or zoning conflicts related to forest land, timberland, and timberland production zones.

The ability of forest land to support other uses and the effects that the proposed project might have on these uses are addressed in other sections of this EIS/EIS/EIR. Aesthetic resources are addressed in Section 4.4, Scenic Resources. The project's consistency with US Forest Service (USFS) guidelines and Tahoe Regional Planning Agency (TRPA) and local agency goals and policies is presented in Section 4.2, Land Use. Forest-related habitat, wildlife, ecosystem, and land management impacts are evaluated in Section 4.7, Biological Resources. Issues related to recreation are addressed in Section 4.8, Recreation.

4.3.1 REGULATORY SETTING

The following provides an overview of laws and regulations related to forestry resources that could apply to the proposed project and are related to the loss or conversion of forest land and potential rezoning or zoning conflicts related to forest land, timberland, and timberland production zones.

FEDERAL

UNITED STATES FOREST SERVICE

The project components are predominantly located on National Forest System (NFS) lands managed by the USFS; these lands are located in the Tahoe National Forest and in the Lake Tahoe Basin Management Unit (LTBMU). The management of NFS lands in each of these forests is guided by a separate Land and Resources Management Plan (Forest Plan). The current plans are summarized below.

Lake Tahoe Basin Management Unit - Land and Resource Management Plan

The LTBMU manages more than 75 percent of lands within the Tahoe Region, including lands located within the project study area. Land management is guided by the LTBMU Forest Plan (USFS 1988), as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) (USFS 2003), described below. The Forest Plan sets the framework for how the resources of the national forest lands are managed. The plan translates national laws, policies, and regulations into guidance for activities that occur on the NFS lands. The Forest Plan addresses multiple uses and benefits of forest land.

The project's consistency with the Forest Plan is considered in the National Forest Management Act (NFMA) Forest Plan Consistency Checklist, a planning tool developed and used by LTBMU staff, included in Appendix G of this EIS/EIS/EIR. As described in the NFMA checklist, incorporated by reference here, the project alternatives would be consistent with the relevant Forest Plan directives. Therefore, specific Forest Plan directives are not considered further for consistency analysis in this section.

Tahoe National Forest—Land and Resource Management Plan

The USFS Tahoe National Forest Land and Resource Management Plan (USFS 1990), as amended, provides guidance as to the management of the Tahoe National Forest. Its goals are to ensure the wise use and protection of Tahoe National Forest resources, fulfill legislative requirements, and address local, regional, and national issues.

The Tahoe National Forest Plan (USFS 1990) provides direction for managing the Tahoe National Forest, which includes a portion of the proposed project. Specifically, Chapter V, Management Direction, presents both forest-wide and area-specific management direction for the Tahoe National Forest. The forest-wide management direction consists of forest goals and desired future conditions, objectives, and forest-wide standards and guidelines. Specific management direction for each of the 106 management areas includes: management emphasis for the area, selected standards and guidelines, and compatible available management practices. The Tahoe National Forest's Forest Plan is amended by the Sierra Nevada Forest Plan Amendment (USFS 2003), described below. The proposed project's consistency with the Tahoe National Forest Forest Plan is considered in a matrix similar to the NFMA checklist described above for the LTBMU (but with relevant standards and guidelines only) and is included in Appendix G of this EIS/EIS/EIR. As described in the Tahoe National Forest NMFA checklist, incorporated by reference here, the project alternatives would be consistent with the Tahoe National Forest standards, guidelines, and management practices. Therefore, specific Tahoe National Forest standards, guidelines, and management practices are not considered further for consistency analysis in this section.

Sierra Nevada Forest Plan Amendment

The SNFPA (USFS 2003) amends the Forest Plans for the 11 National Forests that fall within the Sierra Nevada, including the LTBMU Forest Plan and the Tahoe National Forest Plan, described above. The SNFPA Final Supplemental EIS and Record of Decision describe the amendments to the Sierra Nevada Forest Plan developed to improve protection of old forests, wildlife habitats, watersheds, and communities in the Sierra Nevada and Modoc Plateau. The proposed project's consistency with specific guidance provided in the SNFPA is considered in the NFMA Forest Plan Consistency Checklist included as Appendix G of this EIS/EIS/EIR. As described in the NFMA checklist, incorporated by reference here, the project alternatives would be consistent with the SNFPA guidance. Therefore, specific SNFPA standards and guidelines are not considered further for consistency analysis in this section.

FEDERAL ENERGY REGULATORY COMMISSION

The Federal Energy Regulatory Commission requires utilities to adopt and maintain minimum clearance standards between vegetation and power lines. These clearances vary depending on voltage. In most cases, the minimum clearances required in state regulations are greater than the federal requirement. In California, the state has adopted General Order 95 rather than the North American Electric Reliability Corporation Standards as the electric safety standard for the state. The Federal Energy Regulatory Commission is not discussed further in this section, as compliance with state requirements will ensure that the federal requirements are met.

STATE

CALIFORNIA FIRE CODE

The California Fire Code (CFC) is contained within Title 24, Chapter 9 of the California Code of Regulations (CCR). Based on the International Fire Code, the CFC is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the CFC and the California Building Code use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

Title 14 CCR Sections 1250-1258, Fire Prevention Standards for Electric Utilities, provides specific exemptions from electric pole and tower firebreak and electric conductor clearance standards, and it specifies when and where standards apply. Section 1254 of Title 14 presents guidelines for minimum clearance requirements around poles or towers on which a switch, fuse, transformer or lightning arrester is attached.

CALIFORNIA PUBLIC UTILITIES COMMISSION GENERAL ORDER 95: RULES FOR OVERHEAD TRANSMISSION LINE CONSTRUCTION

General Order 95, adopted in 1941 and updated in January 2012, is the key standard governing the design, construction, operation, and maintenance of overhead electric lines in California. It includes safety standards for overhead electric lines, including minimum distances for conductor spacing and minimum conductor ground clearance, standards for calculating maximum sag, electric line inspection requirements, and vegetation clearance requirements.

Rule 31.2, Inspection of Lines, requires that lines be inspected frequently and thoroughly to ensure they are in good condition, and that lines temporarily out of service be inspected and maintained as to not create a hazard.

Rule 35 of General Order 95 (Tree Trimming) defines minimum vegetation clearance around power lines and applies to all facilities at all times of the year. For the project area, Rule 35 guidelines, at the time of trimming, require the following:

- 4 feet radial clearances for any conductor of a line operating at 2,400 volts or more, but less than 72,000 volts;
- 6 feet radial clearances for any conductor of a line operating at 72,000 volts or more, but less than 110,000 volts;
- 10 feet radial clearances for any conductor of a line operating at 110,000 volts or more, but less than 300,000 volts; and
- 15 feet radial clearances for any conductor of a line operating at 300,000 volts or more.

CALIFORNIA PUBLIC RESOURCES CODE

The California Public Resources Code provides a definition for forest land which is applicable to the proposed project.

- Section 12220(g) defines forest land as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.
- Section 4526 defines timberland as land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

The California Public Resources Code also contains regulations associated with power line vegetation management.

- Public Resources Code 4292 states a that a minimum firebreak of 10 feet (measured horizontally) shall be maintained in all directions from the outer circumference of any pole which supports a switch, transformer, lightning arrester, line junction, or end or corner pole. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows.
  - At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread.
  - From 0 - 2.4 m (0-8 feet) above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 m (8 feet).
  - From 2.4 m (8 feet) to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

- Public Resources Code 4293 establishes the minimum vegetation clearance distances (between vegetation and energized conductors) required for overhead transmission line construction and identifies requirements for hazard tree removal where trees may contact the line from the side or may fall on the line. Minimum clearances are discussed as follows.
  - A minimum radial clearance of 4 feet shall be established for any conductor of a line operating at 2,400 or more volts but less than 72,000 volts.
  - A minimum radial clearance of 6 feet shall be established for any conductor of a line operating at 72,000 or more volts but less than 110,000 volts.
  - A minimum radial clearance of 10 feet shall be established for any conductor of a line operating at 110,000 or more volts.

CALIFORNIA GOVERNMENT CODE

California Government Code definitions applicable to the proposed project include the following.

- Section 51104(g) defines "timberland production zone" (TPZ) to mean an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. Compatible uses are defined under Section 51104(h) and include the construction and maintenance of electric transmission facilities.
- Section 51112 identifies situations which would warrant a decision that a parcel is not devoted to and used for growing and harvesting timber or for growing and harvesting timber and compatible uses.
- Section 51113 allows the opportunity for a landowner to petition that his or her land be zoned timberland production.

CALIFORNIA TIMBERLAND PRODUCTIVITY ACT OF 1982

The California Timberland Productivity Act of 1982 (California Government Code - Section 51100-51104) identifies the benefits of the state's timberlands and acknowledges the threat of timberland loss via land use conversions. The law identifies policies intended to preserve timberland, including maintaining an optimum amount of timberland, discouraging premature conversion, discouraging expansion of urban land uses into timberlands, and encouraging investments in timberland. The law establishes TPZ on all qualifying timberland, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. The law also provides that timber operations conducted in a manner consistent with forest practice rules (Z'Berg-Nejedly Forest Practices Act of 1973) shall not be or become restricted or prohibited due to any land use in or around the locality of those operations.

Z'BERG-WARREN-KEENE-COLLIER FOREST TAXATION REFORM ACT OF 1976

According to the Z'berg-Warren-Keene-Collier Forest Taxation Reform Act (California Government Code - Section 51110-51119.5: Article 2), enacted in 1976, counties must provide for the zoning of land used for growing and harvesting timber as TPZs. A TPZ is a 10-year restriction on the use of land, and replaced the use of agricultural preserves (Williamson Act contracts) on timberland. Land use under a TPZ is restricted to growing and harvesting timber, and to compatible uses approved by the county. In return, taxation of timberland under a TPZ is based only on such restrictions in use.

Z'BERG-NEJEDLY FOREST PRACTICE ACT OF 1973

The Z'Berg-Nejedly Forest Practice Act (FPA) of 1973 (California Public Resources Code - Section 4511-4517) established the state Board of Forestry and Fire Protection, whose mandate is to protect and enhance the state's unique forest and wildland resources. This mandate is carried out through enforcement of the California

Forest Practice Rules (FPR) (Title 14, CCR, Chapters 4, 4.5 and 10). The California Department of Forestry and Fire Protection enforces the laws that regulate logging on non-federal lands in California. Additional rules enacted by the State Board of Forestry and Fire Protection are also enforced to protect forest and wildland resources.

The FPA is intended to create and maintain an effective and comprehensive system of regulation and use of all timberlands so as to ensure that the productivity of timberlands is restored, enhanced, and maintained and that the goal of maximum sustained production of high-quality timber products is achieved while giving consideration to values relating to sequestration of carbon dioxide (CO_2), recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment, and aesthetic enjoyment. The FPA requires that a Timber Harvest Plan (THP) be prepared by a Registered Professional Forester for timber harvest on non-federal lands in the state.

THPs are prepared for timber operations and must be consistent with applicable laws and regulations, including, but not limited to, the California Environmental Quality Act (CEQA). The California Public Resources Code (Section 21080.5) provides that a regulatory program of a state agency shall be certified by the Secretary for Resources as being exempt from the requirements for preparing EIRs, Negative Declarations, and Initial Studies if the Secretary finds that the program meets the criteria contained in that code section. The regulation of timber harvesting by the California Department of Forestry and Fire Protection has been certified by the Secretary for Resources as meeting such requirements. Consequently, THPs serve as a functional equivalent of an EIR and include feasible mitigation measures and an evaluation of alternatives which would lessen or avoid adverse environmental impacts. The FPA also provides clarification for activities occurring within the jurisdiction of TRPA. Under the FPA, TRPA shall have the right to adopt rules and regulations which are stricter than those included in the FPA and may include matters relating to soil erosion control, protection of stream character and water quality, flood control, stand density control, reforestation methods, mass soil movements, submission of timber harvesting plans, location and grade of roads and skid trails, excavation and fill requirements, slash and debris disposal, haul routes and schedules, hours and dates of logging, and performance bond requirements.

However, the California Code of Regulations Title 14 Section 1104.1(c) exempts clearing of trees from timberland by a private or public utility from the requirement to file for a THP or a Timberland Conversion Permit (TCP) (needed to convert harvested forest land to another use) for construction of electric rights-of-way. Therefore project-related tree removal on non-federal land outside of the Lake Tahoe Basin would not require preparation of a THP or TCP. If wood products removed from the ROW would be sold, a Utility Right of Way Exemption would be required by CAL FIRE. Timber operations occurring in the Lake Tahoe Basin (pursuant to Title 14, CCR, Section 1038) are exempt from THP preparation and submission requirements and from the completion report and stocking report requirements of the FPA; however, such operations must have a valid Tahoe Basin Tree Removal Permit (as defined by the TRPA) or shall be conducted under a valid TRPA Memorandum of Understanding, when such a permit is required by TRPA. Such operations are also subject to specific restrictions as identified in the FPRs. Additionally, the FPRs identify agency-specific exemptions from the provisions of the FPA (PRC Section 4511 et. seq.). According to the FPRs, timber operations on land managed by the California Department of Parks and Recreation (e.g., Burton Creek State Park) are exempt from the provisions of the FPRs, provided that the timber operations have undergone all required CEQA evaluation required pursuant to PRC Division 13 commencing with Section 21000. While various exemptions may apply to the proposed project, all timber operations on non-federal lands shall comply with all other applicable provisions of the FPA, regulations of the Board of Forestry and Fire Protection, and currently effective provisions of county general plans, zoning ordinances and any implementing ordinances.

TAHOE REGIONAL PLANNING AGENCY

TRPA implements its authority to regulate growth and development in the Lake Tahoe Region through the Regional Plan. The Regional Plan includes Resolution 82-11, the Environmental Threshold Carrying Capacities (threshold standards), Goals and Policies, Code of Ordinances, Plan Area Statements (PASs), and other guidance

documents. TRPA plans and policies related to forest resources are from a habitat perspective instead of a timber resource perspective. As indicated above, this section focusses on issues related strictly to the loss or conversion of forest land and zoning of forest land, timberland, and TPZ as described in CEQA, and not the biological resources aspects of forest habitat. Therefore, further description of TRPA forest-related policies and regulations and analysis of how the project may affect forest resources from a TRPA regulatory perspective is provided in Section 4.7, Biological Resources, of this document.

However, zoning conflicts and potential rezoning related to forest land are considered in this section. TRPA does not have traditional zoning designations for parcels located within its jurisdiction. Instead, PASs designate a Land Use Classification (general plan designation) and a list of Permissible Uses (zoning). The TRPA Regional Plan area is divided into PASs for community areas, as shown on Exhibit 4.2-1 in Section 4.2, Land Use. All of the action alternatives include components that are within the following PASs: Lower Truckee (003), 64-Acre Tract (174), Tahoe City (001A), Tahoe City Industrial (001B), Fairway Tract (002), Burton Creek (004), Watson Creek (013), Northstar (015), Martis Peak (019), Kingswood East (025), Woodvista (027), and Kings Beach Industrial (026).

All project components are listed as permissible in the applicable PASs, with the exception of the existing distribution underbuild on the 625 Line within the Lower Truckee (003) PAS and the proposed upgrade of the Kings Beach Substation in the Martis Peak (019) PAS. The focus of forest land zoning in California is preservation of timberland devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and transferring existing non-conforming distribution underbuild to new poles in the Lower Truckee (003) PAS or the addition of the Kings Beach Substation as an allowable use in the Martis Peak (019) PAS would not lessen the capability to manage for forest resources in each PAS, nor would it affect the distribution of forest land in each PAS or in the region. Section 4.2, Land Use, of this EIS/EIS/EIR further discusses zoning and PASs.

As noted, timber operations occurring in the Lake Tahoe Region (pursuant to Title 14, CCR, Section 1038) are exempt from THP preparation and submission requirements and from the completion report and stocking report requirements of the FPA; however, such operations must have a valid Tahoe Basin Tree Removal Permit (as defined by the TRPA) or shall be conducted under a valid TRPA Memorandum of Understanding, when such a permit is required by TRPA. Such operations are also subject to specific restrictions as identified in the FPRs.

LOCAL AGENCIES

Policies and ordinances of local agencies applicable to the proposed project are described in this section.

PLACER COUNTY

Zoning Code

There are four zoning districts within the Placer County Zoning Ordinance that relate to Forestry Resources: Forestry (FOR); Forestry, combining minimum building site size of 160 acres (FOR-B-X-160 AC. MIN.); Residential Forest combining a minimum building site size of 10 acres (RF-B-X 10 AC. MIN.), and TPZ (Placer County 1995).

The FOR zone is intended to designate portions of the mountainous areas of Placer County where the primary land uses will relate to the growing and harvesting of timber and other forest products, together with public and commercial recreational uses (Placer County 1995). No land use permit approval is required for transmission lines in FOR zones because they typically involve no or minimal construction activities, are accessory to some other land use that will be the primary use of a site (which will require a land use permit), or are otherwise entirely consistent with the purposes of the particular zone (Placer County 1995).

The FOR-B-X-160 AC. MIN. zone is intended to combine FOR zoning with a minimum Building Site of 160 acres. The purpose of the building site (-B) combining district is to provide for different parcel sizes in new subdivisions

than would otherwise be required by an applicable zone district, based upon special characteristics of the site or area to which the combining district is applied, including but not limited to sensitive environmental characteristics, limited resource capacities, and community character.

The RF-B-X 10 AC. MIN. zone is intended to provide opportunities for rural residential living with a minimum building site size of 10 acres, in the forested, mountainous or foothill areas of Placer County. The purpose of the building site (-B) combining district is to provide for different parcel sizes in new subdivisions than would otherwise be required by an applicable zone district, based upon special characteristics of the site or area to which the combining district is applied, including but not limited to sensitive environmental characteristics, limited resource capacities, and community character.

The TPZ is intended to be an exclusive area for the growing and harvesting of timber and those uses that are an integral part of a timber management operation. The zone is established in conformance with the Z'Berg-Warren-Keene-Collier Forest Taxation Reform Act of 1976 (California Government Code Section 51100 et seq.). No land use permit approval is required for transmission lines in TPZ zones because they typically involve no or minimal construction activities, are accessory to some other land use that will be the primary use of a site (which will require a land use permit), or are otherwise entirely consistent with the purposes of the particular zone (Placer County 1995).

NEVADA COUNTY

All proposed project facilities that could convert forest land within Nevada County occur within the boundaries of the Town of Truckee; therefore, regulations associated with tree removal in the Town of Truckee are discussed below.

TOWN OF TRUCKEE

The Town of Truckee Development Code (Section 18.30.155) allows for tree removal for construction purposes; however, tree preservation is also identified as a goal. This section of the Development Code also includes development standards intended to ensure the retention of trees to the maximum extent feasible and identifies tree removal permit requirements. This section also identifies activities which are exempt from tree removal permit requirements, which includes activities associated with tree pruning or removal for safety reasons, as mandated by the California Public Utilities Commission (CPUC) (General Order 35) and PRC 4293. Additional exempt activities include removal of trees by private utilities, as necessary to perform maintenance, repairs, modifications, and/or to construct infrastructure.

4.3.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT

The forest land study area includes the permanent 40-foot power line right-of-way (ROW) for single-circuit segments, the temporary 65-foot power line ROW (inclusive of the permanent ROW) for single-circuit segments, the permanent 65-foot power line ROW for double-circuit segments, new roads, staging areas, stringing/ pulling sites, substations, and all other project-related facilities plus a hazard tree border zone for the project alternatives. The hazard tree border zone includes the area within 150 feet of a power line center line and was included in the forest land study area to analyze the impacts associated with hazard tree removal. The 150 foot width of the hazard tree border zone was agreed to by the lead agencies as a reasonable area where a vast majority of hazardous tree removal would occur. The permanent 40-foot ROW, new roads, and substations would require permanent tree removal, while the temporary ROW (12.5 feet on either side of the permanent 40-foot ROW for single-circuit segments), staging areas, and stringing/pulling sites would be abandoned following construction and would be allowed to re-grow trees. Tree removal in the hazard tree border zone would be restricted to individual trees which have the potential for falling into the constructed line; whereas, all

trees within permanent and temporary impact areas would be removed. Hazard tree removal would occur concurrently with ROW tree removal.

FOREST LAND

For the purposes of this analysis, forest land, as discussed in greater detail above in the description of state regulations, is defined as land that can support 10 percent native tree cover of any species that allows for management of timber, aesthetics, fish and wildlife, recreation, and other public benefits (PRC Section 12220(g)). Large portions of the project footprint for the action alternatives are located within land that meets the PRC 12220(g) definition. Forest types in the forest land study area typically have greater than 10 percent cover by native trees. For the purposes of this EIS/EIS/EIR, all forest types in the forest land study area are considered to be forest land. The following summarizes each of the forest types found in the proposed project area, and is summarized from Section 4.7, Biological Resources. Exhibits provided in Appendix K, Vegetation Maps, of this EIS/EIS/EIR display the distribution of forest land in the project area. These existing coniferous forest types could experience temporary or permanent effects from implementation of the action alternatives.

Jeffrey Pine Forest

Jeffrey pine (*Pinus jeffreyi*) is the dominant tree species in this community type. In the study area, lodgepole pine is also present in small numbers. Canopy cover is typically less dense than in other forest communities as Jeffrey pine tends to be more scattered throughout the community. This generally allows for the understory of the Jeffrey pine forest to contain plants requiring drier, sunnier conditions than in other conifer communities. These understory plants include big sagebrush (*Artemisia tridentate*), bitterbrush (*Purshia tridentate*), green (or sticky leaved) rabbitbrush (*Chrysothamnus viscidiflorus*), and rubber rabbitbrush (*Ericameria nauseosa*). This forest community type is present in the study area primarily along Segments 650-3, 650-4B, and 650-6 (see Exhibits in Appendix H, Supplemental Forestry and Vegetation Management Report).

Jeffrey Pine-White Fir Forest

Jeffrey pine-white fir forest is similar to mixed conifer forest, but with shorter trees, and dominated by Jeffrey pine and white fir. The understory of this community tends to be open with scattered montane chaparral species, and smaller trees. Common understory species observed included pinemat manzanita (*Arctostaphylos nevadensis*), white-veined wintergreen (*Pyrola picta*), Pacific monardella (*Monardella odoratissima*), and rock cress species (*Boechera* spp.). Approximately 95 acres of Jeffrey pine-white fir forest occurs within the project area, mainly along the 625 Line and Segments 650-1 and 650-2.

Red Fir Forest

Red fir forest is a community typically dominated by even-aged, monotypic stands of mature red fir (*Abies magnifica*). In the study area, scattered western white pine and sugar pine are also present. The understory is much more open than the Sierran mixed conifer forest, with the primary understory shrub species being pinemat manzanita. This is the most abundant community in the study area and is primarily present at the higher elevations along the existing and new 625 Lines. As with the majority of conifer forest habitat in the study area, most of the red fir forest habitat is comprised of mature, even-aged stands of trees due to past logging in the area.

White Fir-Red Fir Forest

White fir-red fir forest is similar to red fir forest, but with white fir (*Abes concolor*) and red fir codominant throughout, with occasional occurrences of incense cedar (*Calocedrus decurrens*) and Jeffrey pine. The understory is also similar to the description of red fir forest, with the primary understory shrub species being pinemat manzanita. Within the study area, this community occurs primarily along Segments 625-8 through 625-10, 650-1, and 650-2.

Sierran Mixed Conifer Forest

Sierran mixed conifer forest is dense forest dominated by a mix of white fir, red fir, Jeffrey pine, sugar pine, and incense cedar. Historic burning and logging have created wide variability in stand structure and composition in this community. Canopy cover varies from nearly 100 percent to more sparse cover, with some open areas. The understory consists of a variety shrubs, grasses, and forbs, including mahala mat (*Ceanothus prostrates*), mountain whitethorn (*Ceanothus cordulatus*), pinemat manzanita, greenleaf manzanita (*Arctostaphylos patula*), bush chinquapin (*Chrysolepis sempervirens*), and huckleberry oak (*Quercus vacciniifolia*). Mixed conifer forest is the second most widespread vegetation community in the study area, extending from Kings Beach north to the Brockway Summit area along the existing and new 625 Lines and the 650 Line and between Brockway Summit and Tahoe City along the existing and new 625 Lines. At higher elevations, the vegetation community transitions from Sierran mixed conifer forest to red fir forest.

TIMBERLAND

Timberland, a subset of forest land, is defined by PRC Section 4526 and consists of non-federal land that is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products. Based on this definition and the species composition of forest land in the study area, all non-federal land classified as forest habitat is considered to be timberland for the purposes of this EIS/EIS/EIR.

TIMBERLAND PRODUCTION ZONE

Timberland Production Zone is defined as an area which has been zoned as such and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, which include construction and maintenance of electric transmission facilities (California Government Code Section 51104(g)). Of the timberland in the study area, only a small portion is currently zoned as TPZ by Placer County, which includes portions of the existing 625 Line and portions of alternative alignments along the Northstar Tap, east and west of Brockway Summit, and a small area situated between Mt. Pluto and Mt. Watson.

STREAM ENVIRONMENT ZONES

Stream Environment Zones (SEZ) are unique to the Tahoe Basin and include perennial, intermittent, and ephemeral streams and drainages, as well as marshes and meadows. Defined by TRPA, these areas generally include riparian or hydric vegetation, alluvial/hydric soils, and the presence of surface water or near-surface groundwater at least part of the year. SEZs make up a small portion of the land area within the Tahoe Basin (approximately 5 percent), but provide important wildlife habitat and help to reduce sediment and nutrient runoff (California Tahoe Conservancy 2013). Based on the ecological importance of SEZs in the Lake Tahoe Basin, an evaluation of forest land within these zones was conducted as some SEZs or portions thereof could be subject to temporary or permanent effects from implementation of the project alternatives.

4.3.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

TRPA CRITERIA

TRPA criteria related to vegetation, including forest habitat and tree removal, are assessed in Section 4.7, Biological Resources, of this EIS/EIS/EIR.

NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are encompassed by the CEQA criteria used for this analysis.

CEQA CRITERIA

In order to determine whether impacts to forest resources, including timberland, are significant environmental effects, Appendix G of the State CEQA Guidelines asks whether a project would do any of the following:

- conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- result in the loss of forest land or conversion of forest land to non-forest use; or
- involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to a non-forest use.

This section evaluates impacts to forest land and timberland specific to these potential impact mechanisms. The ability of forest land to support other uses and the effects that the proposed project might have on these uses are addressed in other sections of this EIS/EIS/EIR. Aesthetic resources are addressed in Section 4.4, Scenic Resources. The project's consistency with USFS guidelines and TRPA and local agency goals and policies is presented in Section 4.2, Land Use. Forest-related habitat, wildlife, ecosystem, and land management impacts are evaluated in Section 4.7, Biological Resources. Issues related to recreation are addressed in Section 4.8, Recreation.

METHODS, ASSUMPTIONS, AND RESULTS

As discussed, the forest land study area includes a unique assessment area which incorporates the 40-foot (or 65-foot) permanent ROW, temporary ROW, new roads, staging areas, stringing/pulling sites, and substations, plus a hazard tree border zone for the action alternatives. The following discussion summarizes the methods used in compiling and analyzing forest land data, outlines any assumptions made in data processing and impact analysis, and summarizes the results of the analysis conducted for all alternatives. For the purposes of this analysis, permanent impacts are those associated with tree removal for the permanent 40-foot (or 65-foot) ROW, new access roads, and substations while temporary impacts are those associated with tree removal for the temporary ROW (12.5 feet in either side of the permanent 40-foot ROW for single-circuit segments), staging areas, and stringing/pulling sites. Tree removal within the hazard tree border zone is accounted for in the tree quantity, tree volume, and sequestered carbon totals presented herein, but not included in the forest land impact acreage as it is assumed that this area would be subject to selective hazard tree removal only. In addition to the summarized information presented below, a detailed spreadsheet outlining impacts, by alternative and line segment, is presented in Appendix H (FCO 2013).

For Alternative 5 (No Action/No Project Alternative), actions would be limited to existing operations and maintenance and completion of existing deferred vegetation management within the existing 625 and 650 Line ROWs. Vegetation management within the existing ROWs would be in compliance with existing regulations (CPUC General Order 95) and approved plans and permits and access would be gained via existing easements and rights-of-way. Therefore, as vegetation management for the existing system is currently approved and required, vegetation removal for Alternative 5 (No Action/No Project Alternative) is not considered to be an impact.

FOREST LAND

In order to evaluate the effect of each alternative on forest land, an analysis of the following data sets was conducted by FCO (2013).

- USFS Pacific Southwest Region (R5) Vegetation Inventory Data.
- Forest type stratification data derived from USFS R5 CALVEG data set.
- CalPeco 132 Line 2009 hazard tree data.

As field-verified inventory data for the forest land study area does not exist, a geographic information system (GIS)-based evaluation of the aforementioned data sets was conducted by FCO (2013) to estimate forest land acreage, tree quantity, overall tree volume, merchantable tree volume, and sequestered carbon totals. The USFS R5 is responsible for producing comprehensive spatial and tabular databases for existing vegetation, which were analyzed for the forest land study area. The methodology used to generate this data captures vegetation characteristics using automated, systematic procedures that efficiently and cost-effectively map large areas of the state with minimal bias and is supplemented with onsite field visits, when appropriate. Map attributes consist of vegetation types using the CALVEG classification system and forest structural characteristics such as tree and shrub canopy cover and tree stem diameters.

Prior to analyzing the action alternative's impacts to forest land, FCO created a GIS-based forest land data set by merging the USFS R5 CALVEG forest type stratification data for all project areas with USFS R5 vegetation inventory data for inside and outside of the Tahoe Basin. This data set was also augmented with CalPeco's 132 Line (120-kilovolt power line) hazard tree data from 2009. Hazard tree volumes from this data set were geographically linked to the forest type in which they were located and then averages applied to the same CALVEG forest types found in the hazard tree border zone. Additionally, the intersection of other pertinent spatial information, such as SEZ areas and landowner classification, was incorporated and allowed for the forest land data set to be sorted for attribute-specific queries (FCO 2013).

As described above, the impact analysis was performed using a GIS overlay of project impact areas intersected with a custom base layer delineated by forest type with rates of vegetation extrapolated from USFS and CalPeco data. The best available and widely used stratification for the project area is the vegetation delineation from the EVEG/CALVEG GIS data files from Region 5 of the USFS. The delineation of the vegetation within the Tahoe Basin is based on is a raster or grid image with 15-foot resolution and delineation outside of the Tahoe Basin is based on a raster or grid image with 98.4-foot (30 meters) resolution. These data sets are provided by the USFS with a scale description of 1:24,000 and 1:100,000, respectively. The forest impact analysis conducted for this EIS/EIS/EIR includes data presented at a much finer scale, including some classifications as narrow as 12.5 feet (temporary ROW areas). Therefore, assumptions from the extrapolation of the data are necessary and the base layer is too coarse to provide reliable absolute numbers. However, the use of this dataset for a comparative analysis presented in this EIS/EIS/EIR may still be considered valid because the analysis has been conducted with a uniform methodology and all assumptions are consistent between alternatives (FCO 2013).

Data included in the resulting GIS-based forest land data set forms the basis for evaluating project and alternative-related forest land impacts for this EIS/EIS/EIR and includes the following.

- Forest Land Impact Area: this characteristic includes the acreage of forest land that contains trees greater than or equal to 1 inch diameter at breast height (dbh) and includes both permanent and temporary disturbance areas.
- Tree Quantity: this characteristic includes the total number of trees greater than or equal to 1-inch dbh and includes hazard trees within the hazard tree border zone.

- Tree Volume: this characteristic includes the total cubic foot volume of all trees greater than or equal to 1-inch dbh and includes the volume of hazard trees within the hazard tree border zone. Additionally, merchantable volume was calculated and includes the total cubic foot volume of all conifer trees greater than or equal to 9-inches dbh and excludes the volume of hazard trees within the hazard tree border zone as no hazard trees are assumed to be merchantable. While some hazard trees may in fact be merchantable, the potential number and volume of merchantable trees is unknown. Therefore, this assumption presents the most conservative estimate for evaluating potential sequestered carbon to be released by timber removal.

The following sections present a summary of the forest land characteristics evaluated for the forest land study area and include analysis results for all alternatives (FCO 2013). As noted, a detailed spreadsheet outlining impacts, by alternative and line segment, is presented in Appendix H, Supplemental Forestry and Vegetation Management Report (FCO 2013).

Forest Land Impact Area

Forest land considered to be subject to permanent impacts includes areas that contain trees that are at least 1 inch dbh and that occur within the permanent 40-foot ROW (or permanent 65-foot ROW for double-circuit segments), new roadways, and substations. Forest land which would be subject to tree removal during construction but would be abandoned and allowed to regenerate (temporary impact areas) includes areas that contain trees greater than or equal to 1 inch dbh and that occur within the temporary ROW (12.5 feet on either side of the permanent 40-foot ROW for single-circuit segments), staging areas, and stringing/pulling sites. Temporary impact areas also include those areas where trees would be removed for stringing sites related to removal of the existing 625 Line. Areas already converted for existing roads, existing ROWs, or urban areas, and the hazard tree border zone are not included in the forest land impact totals presented herein. Table 4.3-1, Forest Land Conversion Acres for Project Alternatives, presents the estimated forest land impact area, by impact type and alternative associated with construction of the action alternatives and removal of the existing 625 Line.

Table 4.3-1 Forest Land Conversion Acres for Project Alternatives

Alternative	Permanent Forest Land Impacts (Acres)	Temporary Forest Land Impacts (Acres)
Alternative 1 (PEA Alternative)	**121.9**	**97.9**
Alternative Construction	121.9	88.0
Stringing Sites Associated with Removal of the Existing 625 Line	-	9.9
Alternative 2 (Modified Alternative)	**128.2**	**86.4**
Alternative Construction	128.2	77.6
Stringing Sites Associated with Removal of the Existing 625 Line	-	8.8
Alternative 3 (Road Focused Alternative)	**93.1**	**92.4**
Alternative Construction	93.1	78.0
Stringing Sites Associated with Removal of the Existing 625 Line	-	14.4
Alternative 4 (Proposed Project)	**92.8**	**91.6**
Alternative Construction	92.3	77.2
Stringing Sites Associated with Removal of the Existing 625 Line	-	14.4
Alternative 5 (No Action/No Project Alternative)	**N/A**	**N/A**

Tree Quantity

The estimated quantity of trees proposed to be removed by action alternatives includes hardwood and conifer trees greater than or equal to 1 inch dbh within forest land impact areas (both temporary and permanent) and includes an estimate of hazard trees within the 150-foot hazard tree border zone and those requiring removal for stringing sites related to the removal of the existing 625 Line. Table 4.3-2, Number of Trees to be Removed for Project Alternatives, presents an estimate of the number of trees greater than or equal to 1 inch dbh that would require removal, by impact type and alternative, both within the ROW and associated with removal of the existing 625 Line.

Table 4.3-2 Number of Trees to be Removed for Project Alternatives

Alternative	Total Number of Trees ≥1" dbh to be Removed (Permanent and Temporary Impact Areas)	Number of Trees ≥1" dbh to be Removed (Permanent Impact Areas)	Number of Trees ≥1" dbh to be Removed (Temporary Impact Areas)
Alternative 1 (PEA Alternative)	**58,000**	**32,394**	**25,606**
Alternative Construction	55,188	32,394	22,794
Stringing Sites Associated with Removal of the Existing 625 Line	2,812	-	2,812
Alternative 2 (Modified Alternative)	**56,795**	**34,347**	**22,448**
Alternative Construction	54,511	34,347	20,164
Stringing Sites Associated with Removal of the Existing 625 Line	2,284	-	2,284
Alternative 3 (Road Focused Alternative)	**47,448**	**24,161**	**23,287**
Alternative Construction	43,596	24,161	19,435
Stringing Sites Associated with Removal of the Existing 625 Line	3,852	-	3,852
Alternative 4 (Proposed Alternative)	**47,101**	**24,048**	**23,053**
Alternative Construction	43,249	24,048	19,201
Stringing Sites Associated with Removal of the Existing 625 Line	3,852	-	3,852
Alternative 5 (No Action/No Project Alternative)	**N/A**	**N/A**	**N/A**

Note: An estimate of hazard trees to be removed is included in the Permanent Impact Area totals.

Tree Volume

Forested areas were delineated by the stratification of the CALVEG layer and were assigned a volume per acre from the best available USFS inventory data linked by the attributes of forest type, crown size, and crown cover. Intersections of the land cover that contained the tree volumes on a per acre basis and the associated project areas created thousands of unique polygons, each with their own acreages. Project totals were estimated by multiplying the acreages of the unique polygons by the geographically-specific estimated tree volume/acre totals (FCO 2013).

The estimated cubic foot volume for all removed trees (permanent and temporary) was calculated and includes estimates for total volume and merchantable volume. The total cubic foot volume of trees includes all trees greater than or equal to 1 inch dbh, plus hazard trees within the hazard tree border zone and trees requiring removal for stringing sites related to the removal of the existing 625 Line, and is inclusive of merchantable volume (greater than or equal to 9 inches dbh). Merchantable volume includes conifer trees greater than or equal to 9 inches dbh, but excludes hazard trees, as hazard trees are assumed to be non-merchantable. To

provide context for the cubic foot volume totals presented herein, in 2006 construction of the average residential unit in the United States and Canada used approximately 1,600 cubic feet of wood products (Adair and McKeever 2009). Table 4.3-3, Total Cubic Foot Volume to be Removed under the Project Alternatives, presents estimated cubic-foot volumes of all trees to be removed by alternative, both within the ROW and associated with removal of the existing 625 Line.

Table 4.3-3 Total Cubic Foot Volume to be Removed under the Project Alternatives

Alternative	Total Cubic Foot Volume of Trees ≥1" dbh to be Removed	Total Merchantable Timber Volume in Cubic Feet (Conifers ≥9" dbh)
Alternative 1 (PEA Alternative)	**815,242**	**560,473**
Alternative Construction	769,378	525,646
Stringing Sites Associated with Removal of the Existing 625 Line	45,864	34,827
Alternative 2 (Modified Alternative)	**809,253**	**554,361**
Alternative Construction	770,815	525,142
Stringing Sites Associated with Removal of the Existing 625 Line	38,438	29,219
Alternative 3 (Road Focused Alternative)	**668,169**	**456,064**
Alternative Construction	601,498	404,849
Stringing Sites Associated with Removal of the Existing 625 Line	66,671	51,215
Alternative 4 (Proposed Alternative)	**666,073**	**454,823**
Alternative Construction	599,402	403,608
Stringing Sites Associated with Removal of the Existing 625 Line	66,671	51,215
Alternative 5 (No Action/No Project Alternative)	**N/A**	**N/A**

STREAM ENVIRONMENT ZONES

As discussed, the SEZ designation is unique to the Lake Tahoe Basin, and includes riparian or hydric vegetation and provides important wildlife habitat and helps to reduce sediment and nutrient runoff. The estimated quantity of removed trees (greater than or equal to 1 inch dbh) and associated total tree volume (cubic feet) was calculated for forest land impact areas (permanent and temporary) in SEZs (FCO 2013). These totals exclude trees requiring removal for stringing sites related to the removal of the existing 625 Line as stringing sites will be placed to avoid SEZs. Table 4.3-4, Number of Trees and Cubic Foot Volume to be Removed in SEZs for the Project Alternatives, presents the estimated number of trees and associated cubic foot volume of trees to be removed in SEZs and includes hazard trees.

Table 4.3-4 Number of Trees and Cubic Foot Volume to be Removed in SEZs for the Project Alternatives

Alternative	Number of Trees ≥1" dbh to be Removed	Total Cubic Foot Volume of Trees ≥1" dbh to be Removed
Alternative 1 (PEA Alternative)	1,721	16,911
Alternative 2 (Modified Alternative)	1,696	16,471
Alternative 3 (Road Focused Alternative)	1,543	14,770
Alternative 4 (Proposed Alternative)	1,542	14,758
Alternative 5 (No Action/No Project Alternative)	N/A	N/A

SEQUESTERED CARBON

In addition to the forest land characteristics described above, an evaluation of impacts to sequestered carbon was conducted for this EIS/EIS/EIR utilizing the data developed by FCO (2013). This analysis is important to the understanding of the net change in greenhouse gas (GHG) emissions associated with the project alternatives. Carbon sequestration is the process by which CO_2 is removed from the atmosphere and deposited into a carbon reservoir (e.g., vegetation). Trees and vegetation take in CO_2 from the atmosphere during photosynthesis, break down the CO_2, store the carbon within plant parts, and release the oxygen back into the atmosphere. The removal of vegetation from forest land would be required as a result of the proposed project, thereby removing stored carbon from the project site and reducing future sequestration capability in permanent impact areas. Temporary impact areas and the abandoned portions of the existing 625 Line ROW would allow tree establishment and growth over time, which would store new carbon via normal growth.

As presented in Section 4.13, Air Quality and Climate Change, of this EIS/EIS/EIR, the California Emission Estimator Model (CalEEMod) was used to calculate potential CO_2 emissions associated with the proposed project. CalEEMod calculates potential CO_2 releases associated with the vegetation removal activities of land use change and assumes that the sequestered carbon is released as CO_2 after removal of the vegetation. By default, CalEEMod utilizes data and formulas based on the Intergovernmental Panel on Climate Change (IPCC) reports, which are based on global studies rather than local data sets. However, project-specific values were developed from the cubic foot tree volume totals included in the forest land data set discussed herein. For this analysis, it is assumed that sequestered carbon from all non-merchantable volume would be returned to the atmosphere as CO_2. This assumption presents a worst-case evaluation, as the release of sequestered carbon to the atmosphere as CO_2 would likely occur over a long period of time via the natural decomposition process. The analysis of sequestered carbon loss presented in this section does not include CO_2 emissions estimates associated with vegetation clearing or removal activities, the transport of merchantable trees offsite, or the disposal process. GHG emissions generated from such activities are included in the analysis presented in Section 4.13, Air Quality and Climate Change, of this EIS/EIS/EIR.

Custom Carbon Content Factors

CalEEMod calculates project-related GHG emissions resulting from land conversion and, by default, uses five general IPCC land use classifications (forest land [scrub], forest land [trees], cropland, grassland, and wetlands) for assigning default carbon content values (in units of metric tons CO_2/acre). Calculation of the one-time loss of sequestered carbon in CalEEMod is the product of the converted acreage value and the carbon content value for each land use type. Rather than utilize the general IPCC carbon content values, the forest land data set data developed by FCO for this project (2013) was analyzed for the action alternatives to calculate the total carbon volume in metric tons of CO_2 equivalent ($MTCO_2e$) included in trees to be removed. The method for calculating the loss of sequestered carbon is presented below.

Loss of Sequestered Carbon

A development that removes vegetation results in potential release of sequestered carbon to the atmosphere as CO_2, which would not have been released had there been no vegetation removal. In CalEEMod, the amount of sequestered carbon which would be lost to the atmosphere is based on the conversion acreage of forest land and the carbon content per acre value. For this analysis, more detailed USFS forest land data was utilized to calculate the loss of sequestered carbon resulting from the proposed project. Specifically, total removed cubic foot tree volume (greater than or equal to 1 inch dbh) data generated by FCO (2013) formed the basis for the carbon-related calculations included in this EIS/EIS/EIR. The calculations conducted for this EIS/EIS/EIR are consistent with those presented in the Climate Action Reserve (CAR) Forest Project Protocol, v3.3 (CAR 2012a, 2012b).

The total cubic foot volume of trees to be removed (which includes trees in permanent and temporary impact areas plus hazard trees in the hazard tree border zone) includes merchantable tree volume. This analysis assumes that merchantable wood would be utilized as forest products thereby retaining sequestered carbon in

wood products and reducing the amount of sequestered carbon assumed to be released to the atmosphere as CO_2. Merchantable volume includes all removed conifer trees greater than or equal to 9 inches dbh, but excludes hazard trees, which are assumed to be non-merchantable. Additionally, this analysis assumes that 70 percent of merchantable wood volume would be converted to forest products (James, Krumland, and Eckert 2007), with the remaining 30 percent becoming waste. Therefore, the net tree volume expected to release its stored carbon to the atmosphere as CO_2 includes the total cubic foot tree volume (greater than or equal to 1 inch dbh) removed less 70 percent of the volume of merchantable trees (greater than or equal to 9 inches dbh, excluding hazard trees). The following equation summarizes the determination of net tree volume:

$$\text{Net Tree Volume } (ft^3) = \text{Total Tree Volume } (ft^3) - (\text{Merchantable Tree Volume } (ft^3) * 0.70)$$

After accounting for the tree volume to be converted to forest products, biomass was calculated from the net tree volume expected to release its stored carbon to the atmosphere as CO_2. As the USFS inventory data used for this analysis does not indicate species distributions, the net cubic foot volume was converted to biomass using the carbon/wood density factor for white fir, which is presumed to be the dominant species across the project area (FCO 2013). The source of the carbon/wood density factor is the Regional Biomass Equations provided by CAR (2012a). The following equation was used in calculating biomass (CAR 2012b):

$$\text{Biomass (tons)} = (\text{Net Volume } [ft^3] * 23.09 \text{ [carbon/wood density factor]})/2{,}000$$

Finally, the conversion formulae presented in the CAR Quantification Guidance document (CAR 2012b) were used to convert the calculated biomass total to a $MTCO_2e$ value. The following equation was used in calculating $MTCO_2e$:

$$MTCO_2e = ((\text{Biomass (tons)} * 0.50) * 3.67) * 0.90718474$$

Table 4.3-5, Total Sequestered Carbon to be Released by Timber Removal for the Project Alternatives, presents the total sequestered carbon expected to be released to the atmosphere as CO_2 from the one time activity of timber removal, by alternative.

Table 4.3-5 Total Sequestered Carbon to be Released by Timber Removal for the Project Alternatives

Alternative	Total $MTCO_2e$ Released
Alternative 1 (PEA Alternative)	8,128
Alternative 2 (Modified Alternative)	8,095
Alternative 3 (Road Focused Alternative)	6,706
Alternative 4 (Proposed Alternative)	6,682
Alternative 5 (No Action/No Project Alternative)	N/A

Loss of Carbon Sequestration Potential

The loss of carbon sequestration potential is an assessment of the amount of carbon which would have been sequestered by trees had they not been removed by a project alternative. Sequestration rates vary across the landscape, and are affected by forest type, forest structure, stand age, location, disturbance regimes, management history, soil conditions, and climate, amongst others. As specific carbon sequestration rates for forest land in the project area are not currently available, an analysis of sequestration potential loss by project alternative was conducted by comparing the amount of carbon currently sequestered in trees within the project area with an estimated future carbon content value assumed at a time when the forest habitat reaches a higher level of maturity. The current carbon content values used in this analysis are those calculated by FCO (2013) for permanently impacted forest land areas and hazard trees in the hazard tree border zone because those trees

would not be removed if the project alternatives were not implemented. The values for carbon sequestered in permanent impact areas and hazard trees are presented in the data tables included in Appendix H.

The future carbon content value was calculated by multiplying the acreage of permanently-impacted forest land (as presented in Table 4.3-1) by the Common Practice carbon content value for the Sierra Mixed Conifer forest type (146.1 $MTCO_2$/acre), as presented by the California Air Resources Board (ARB) (ARB n.d.). The product of this calculation represents a potential future condition which the forest land areas may meet without implementation of a project alternative. Note that the 146.1 MTCO2/acre ARB estimate of future forest carbon content is the same value used below in the discussion of Future Carbon Sequestration as an estimate of forest carbon content that might ultimately develop in the abandoned 625 Line. The current carbon content value was then subtracted from the estimated future carbon content value, as it was below the Common Practice value, to determine the loss of carbon sequestration potential for each project alternative. This analysis compares current carbon storage with an estimated future average and is based on the best available information for forest carbon content, as presented by the California ARB. Table 4.3-6, Loss of Carbon Sequestration Potential in Permanent Impact Areas and Hazard Tree Border Zone for the Project Alternatives, presents the loss of carbon sequestration potential totals, by project alternative.

Table 4.3-6 Loss of Carbon Sequestration Potential in Permanent Impact Areas and Hazard Tree Border Zone for the Project Alternatives

Alternative	Permanent Forest Land Impacts (Acres)	Common Practice $MTCO_2e$ Content (per acre)	Calculated Common Practice $MTCO_2e$ Content in Permanent Impact Areas	Removed $MTCO_2e$ in Permanent Impact Areas and Hazard Trees	Lost $MTCO_2e$ Sequestration Potential
Alternative 1 (PEA Alternative)	121.9	146.1	17,810	8,897	8,913
Alternative 2 (Modified Alternative)	128.2	146.1	18,730	9,589	9,141
Alternative 3 (Road Focused Alternative)	93.1	146.1	13,602	6,602	7,000
Alternative 4 (Proposed Alternative)	92.8	146.1	13,558	6,592	6,966
Alternative 5 (No Action/No Project Alternative)	N/A	N/A	N/A	N/A	N/A

Potential Future Carbon Sequestration

To account for potential future carbon sequestration within portions of the existing 625 Line ROW which would be abandoned under the project alternatives, and within temporarily-impacted forest land, the forest land areas were multiplied by the average per acre carbon content value for the Sierra Mixed Conifer forest type (146.1 $MTCO_2$/acre), as presented by the California ARB (ARB n.d.). The abandoned forest land area excludes any areas which may be impacted by a project alternative. Additionally, this abandonment acreage estimation includes only abandoned forest land areas which are assumed to be suitable for growing trees and excludes non-compatible areas (e.g., rock outcrops and existing roads) (FCO 2013). Temporarily-impacted areas include only those designated as forest land and also exclude non-compatible areas. Native conifer re-establishment and growth within the abandoned ROW would be expected to occur naturally once vegetation management activities are discontinued in the ROW. Within temporarily-impacted areas, revegetation efforts would be implemented as a part of APM 4.7-5. Potential future sequestration would be expected to occur over a period of approximately 100 years and it is assumed that re-growth will be similar to adjacent forest land. This time frame is based on the estimated age of forest land in the region, which is assumed to date back to Comstock-era logging activity which occurred in the region between 1860 and 1920 (Lindström 2000, Taylor et al. 2012). Table 4.3-7, Potential Future Carbon Sequestration for the Project Alternatives, presents the potential future carbon sequestration totals, by alternative.

Table 4.3-7 Potential Future Carbon Sequestration for the Project Alternatives				
Alternative	Acreage of Forest Land in Abandoned ROW	$MTCO_2e$ Sequestered Over Time in Abandoned ROW	Acreage of Forest Land in Temporary Impact Areas	$MTCO_2e$ Sequestered Over Time in Temporary Impact Areas
Alternative 1 (PEA Alternative)	22.8	3,331	97.9	14,303
Alternative 2 (Modified Alternative)	21.2	3,097	86.4	12,623
Alternative 3 (Road Focused Alternative)	26.6	3,886	92.4	13,500
Alternative 4 (Proposed Alternative)	26.7	3,901	91.6	13,383
Alternative 5 (No Action/No Project Alternative)	N/A	N/A	N/A	N/A

ISSUES NOT DISCUSSED FURTHER

As discussed above in Section 4.3.1, Regulatory Setting, all project components are listed as permissible in the applicable TRPA PASs, with the exception of the existing distribution underbuild on the 625 Line within the Lower Truckee (003) PAS and the proposed upgrade of the Kings Beach Substation in the Martis Peak (019) PAS. The focus of forest land zoning in California is preservation of timberland devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. Transferring existing non-conforming distribution underbuild to new poles in the Lower Truckee (003) PAS or the addition of the Kings Beach Substation as an allowable use in the Martis Peak (019) PAS would not lessen the capability to manage for forest resources in each PAS, nor would it affect the distribution of forest land in each PAS or in the region. Therefore, project consistency/inconsistency with PAS requirements are not considered further as a potential mechanisms to generate conflicts with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The issue of project consistency with PAS requirements is addressed in detail in Section 4.2, Land Use.

ALTERNATIVE 1 - PEA ALTERNATIVE

DIRECT AND INDIRECT IMPACTS

IMPACT 4.3-1 (Alt.1)	**Conflict with or cause rezoning of forest land, timberland, or TPZ.** Implementation of Alternative 1 (PEA Alternative) would not result in a conflict with existing Placer County forest land/timberland-related zoning or cause rezoning of forest land, timberland, or TPZ located in the project footprint (i.e., FOR, FOR-B-X-160 AC. MIN., RF-B-X 10 AC. MIN., and TPZ). Electric lines are allowed without land use permit approval under the Placer Zoning Ordinance on FOR, RF, and TPZ lands. Therefore, there would be **no impact**.

Much of the project site is on federal land (USFS, US Army Corps of Engineers) that does not contain zoning designations relevant to the CEQA significance criteria addressing rezoning of forest land, timberland, or TPZ. This zoning criteria relates to zoning by local jurisdictions (e.g., Placer County). Portions of Alternative 1 (PEA Alternative) would occur on land currently zoned by Placer County for forestry or timber-related purposes (i.e., FOR, FOR-B-X-160 AC. MIN., RF-B-X 10 AC. MIN., and TPZ). Pursuant to CPUC General Order 131, local zoning designations do not apply as Placer County would not have discretionary permitting authority over the project as they are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. Therefore, this information is provided for informational purposes only (see Section 4.1, Introduction, for further discussion of CPUC General Order 131). This Alternative includes no proposal to alter existing zoning designations and does not require rezoning to

accommodate project activities. No land use permit approval is required for electrical lines on land zoned by Placer County as FOR, FOR-B-X-160 AC. MIN., RF-B-X 10 AC. MIN., and TPZ, because they typically: 1) involve no or minimal construction activities; 2) are accessory to some other land use that would be the primary use of a site (which would require a land use permit); or 3) are otherwise entirely consistent with the purposes of the particular zone (Placer County 1995). Therefore, implementation of Alternative 1 (PEA Alternative) would not conflict with existing zoning or cause rezoning of land under the jurisdiction of Placer County currently zoned for forestry, timberland, or TPZ. There would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-2 (Alt.1)	**Conversion of forest land to non-forest uses or loss of forest land.** Implementation of Alternative 1 (PEA Alternative) would result in the removal of approximately 58,000 trees in up to 219.8 acres of forest land plus hazard tree border zones as part of project construction and long-term vegetation management in the power line ROW and in new access ways. Permanent tree removal would occur within the 40-foot wide power line ROW, along new access ways, at substation locations, and selectively within the hazard tree border zone and includes removal of approximately 32,395 trees within roughly 121.9 acres of forest land (excluding the hazard tree border zone). Tree removal in temporary impact areas would occur within the temporary construction ROW (12.5 feet in either side of the permanent 40-foot ROW), staging areas, and stringing/pulling sites and includes removal of approximately 25,605 trees within roughly 97.9 acres of forest land. Implementation of Alternative 1 (PEA Alternative) would also result in the one-time release of approximately 8,130 $MTCO_2e$ currently sequestered in forest land. Potential future sequestration of approximately 8,913 $MTCO_2e$ over time would also be lost. Considering forest regeneration on up to 22.8 acres of land currently maintained in the existing 625 Line ROW would result in an overall permanent forest land impact of 99.1 acres associated with Alternative 1 (PEA Alternative). The 22.8 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,330 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 14,305 $MTCO_2e$ over time. Tree removal would not result in substantial changes to adjacent stand structure or regional forest land composition or distribution. Forest land would not be lost or converted to a non-forest use as project-related activities are compatible uses with forest land zoning designations in the project area. With integration of APMs BIO-1, 21, 23, 26, 28, 36, and 37 into project design and implementation of Mitigation Measures 4.7-4 and 4.7-5, effects on forest land would be further minimized. Therefore, this impact would be considered **less than significant**.

As identified previously, forest land is defined in PRC Section 12220(g) as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. For the purposes of this analysis, forest communities identified above in the description of Existing Conditions/Affected Environment are assumed to fall within the definition of forest land. Within the Alternative 1 (PEA Alternative) forest land study area, approximately 121.9 acres of forest land would be permanently impacted for construction of ROWs, access ways, and substations. Selective tree removal would also be conducted in the hazard tree border zone, which includes the area within 150-feet of the power line center line. Tree removal in temporary impact areas would occur within the temporary ROW (12.5 feet in either side of the permanent 40-foot ROW), staging areas, and stringing/pulling sites. Tree removal within permanent and temporary impact areas and the hazard tree border zone would total approximately 58,000 trees (including approximately 1,720 trees in SEZ areas), which include roughly 815,240 cubic feet of wood volume (including approximately 16,910 cubic feet in SEZ areas). Impacts specific to late seral/old-growth trees

are discussed in Section 4.7, Biological Resources, of this document. Tree removal would also result in the one-time release of approximately 8,130 $MTCO_2e$. Potential future sequestration of approximately 8,913 $MTCO_2e$ over time would also be lost. Considering forest regeneration on up to 22.8 acres of forest land currently maintained in the existing 625 Line ROW, project implementation would result in an overall permanent forest land impact of approximately 99.1 acres associated with Alternative 1 (PEA Alternative) (121 acres permanent impact minus 22.8 acres of regeneration in the abandoned 625 Line ROW). The 22.8 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,330 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 14,305 $MTCO_2e$ over time. Carbon sequestration within the abandoned 625 Line ROW is expected to reach the totals presented herein over a period of approximately 100 years, based on the timeframe of Comstock-era logging activity in the region between 1860 and 1920 (Lindström 2000, Taylor et al. 2012).

Although trees would be removed from a relatively large total area, this would not constitute a permanent conversion of forest land to a non-forest use. As discussed previously, forest land and timberland zoning (Placer County) identifies power lines as a compatible use within land currently zoned for forestry or timber-related purposes. Permanent tree removal would primarily occur within the narrow power line ROW and access ways, which is not expected to result in substantial changes to adjacent stand structure or regional forest land composition or distribution. Also, as outlined in APM BIO-37, the permanent loss of trees would be offset, in part, by abandonment of the existing 652 Line ROW, which would be allowed to regenerate, and temporary disturbance areas would be revegetated with native vegetation and locally collected native plants and seeds (Mitigation Measure 4.7-5 [Alt. 1]).

As described in Section 4.7, Biological Resources, APMs BIO-1, 21, 23, 26, 28, 36, and 37 have been incorporated into the project design to minimize, avoid, and reduce potential adverse effects from tree removal and loss of common vegetation communities, including forest land. These APMs are listed below and all APMs are described in Section 3.7, Applicant Proposed Measures.

- **APM BIO-1:** Prior to construction, all CalPeco, contractor, and subcontractor project personnel will receive training from qualified resource specialists regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including appropriate wildlife avoidance measures, impact minimization procedures, the importance of sensitive resources, and the purpose and methods for protecting such resources. Among other topics, the training will also include a discussion of Best Management Practices (BMPs) to reduce the potential for erosion and sedimentation during construction.
- **APM BIO-21:** Qualified environmental monitors will be present with each crew during all vegetation-removal activities to help ensure that impacts to biological resources are minimized to the extent possible. For all other construction activities, monitors will be allowed to cover up to 5 miles of the project area at once to allow multiple crews to work in close proximity to each other at the same time. Environmental monitors will have the authority to stop work or direct work in order to help ensure the protection of resources and compliance with all permits.
- **APM BIO-23:** Topsoil, where present, will be salvaged in areas that will be graded or excavated. Topsoil will be segregated, stockpiled separately from subsoil, and covered. The topsoil will then be replaced to the approximate location of its removal after project construction has been completed to facilitate revegetation of disturbed areas. Topsoil will not be salvaged where permanent facilities are planned or where operation and maintenance activities preclude the establishment of vegetation.
- **APM BIO-26:** Work areas will be clearly marked with fencing, staking, flagging, or another appropriate material. All project personnel and equipment will be confined to delineated work areas. In the event that work must occur outside of the work area, approval from lead and other agencies with jurisdiction over the property will be obtained prior to the commencement of activities.

- **APM BIO-28:** CalPeco will minimize vegetation and tree removal to only the areas necessary for construction, especially in riparian areas.
- **APM BIO-36:** Prior to construction, CalPeco will develop a Restoration Plan that will address final clean-up, stabilization, and revegetation procedures for areas disturbed by the project. The Restoration Plan will address loosening of any compacted soil, restoration of surface residue, and reseeding. If existing unpaved roads require modification to temporarily allow passage of construction equipment during the construction period, these roads will be returned to their original footprint after construction is complete. Areas temporarily disturbed by cut and fill activities would be re-graded to blend with the natural topography. On public land, CalPeco will coordinate with the land management agency to determine an appropriate seed mix or tree planting plan. On private land, CalPeco will coordinate with the landowner and/or provide the landowner with a suggested seed mix based on consultation with the agency of jurisdiction. The plan will include approved seed mixes, application rates, and application methods. If broadcast seeding is determined to be the most feasible application method, seeding rates will be doubled relative to the standard seeding rate and the seeding method rationale will be explained. The plan will also include long-term erosion and sediment control measures, slope stabilization, and monitoring procedures. As part of normal equipment inspections an evaluation of access ways will be conducted to confirm that use has not resulted in compaction that would result in "coverage" per TRPA standards.
- **APM BIO-37:** Decommissioning the existing 625 Line ROW and allowing natural regeneration of coniferous forest and other native vegetation types will assist in offsetting the permanent loss of trees and other vegetation along the new 625 Line ROW. Prior to the removal of poles and conductor, a qualified biologist or soil scientist will identify areas of the abandoned ROW that contain unnaturally compacted soil (resulting from unauthorized public use, development of user-created trails, or other factors) that could limit the natural reestablishment of vegetation and assess whether local treatments would be needed to facilitate native vegetation recruitment and development. CalPeco will consult with the applicable land owner/manager to verify that areas identified for treatments are appropriate (e.g., not part of a system road, authorized trail network, or other desired use) and secure approval for restoration. Restoration of these sites will be overseen by a qualified biologist and will likely consist of a combination of the following.

  - Barricade existing access points and post appropriate signage to discourage use.
  - Loosen compacted soil to a depth of 6 to 8 inches.
  - Incorporate logs and boulders into the disturbed area to discourage use.
  - Apply appropriate erosion control Best Management Practices (e.g., installation of check dams, mulch, log and/or rock stabilization) in areas where evidence of sheet, rill, or gully erosion exists.
  - Seed with a certified weed-free seed mix, approved by the applicable land owner/manager, containing native and site-appropriate species.
  - Apply 1 to 2 inches of locally obtained mulch such as pine needles, wood chips, or tub grindings.
  - Monitor for new noxious weed invasions and expansion of existing weed populations following treatments, and implement weed control measures where needed. Post-treatment monitoring for noxious weeds would be conducted annually for up to three years, similar to the frequency and duration specified for USFS land in the USFS Noxious Weed Risk Assessment prepared for the project.
  - Conduct post-treatment monitoring and reporting every two years for up to 10 years, to evaluate success of restoration treatments. The details of the monitoring and reporting program, including identification and implementation of potential adaptive management actions based on monitoring results, will be developed jointly by CalPeco, TRPA, and the land owner/manager.

Effects on forest resources would be further minimized with implementation of Mitigation Measure 4.7-4 (Alt. 1), which includes a pre-construction focused tree survey for the selected alternative, development of necessary timber harvest plans, and securing of all necessary permits.

Overall, implementation of Alternative 1 (PEA Alternative) would not substantially reduce the size, continuity, or integrity of forest land in the project area or interrupt the natural processes that support forest land. Therefore, this impact would be **less than significant**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-3 (Alt.1)	**Change in existing environment that could result in conversion of forest land to non-forest use.** Project activities are compatible with Placer County zoning and do not result in zoning changes that could promote growth. Although the proposed project responds to growth planned/authorized by others, it does not itself promote development that could result in forest land conversion. Implementation of Alternative 1 (PEA Alternative) would not involve additional changes in the existing environment which, due to their location or nature, could temporarily or permanently result in conversion of forest land to a non-forest use. Therefore, implementation of Alternative 1 (PEA Alternative) would result in **no impact**.

Project activities are compatible with Placer County zoning and there would be no changes in zoning that would allow or promote conversion of forest land to another use. Additionally, as described in the discussion of growth-inducing impacts in Chapter 5, Other NEPA-, TRPA-, and CEQA-Mandated Sections, the project does not promote additional development that could convert forest land to another use. Growth in the project area is planned and regulated by the regional plans, general plans, zoning regulations, and other regulations of TRPA, Placer County, Nevada County, and the Town of Truckee. Utilities and service providers in the Lake Tahoe Basin and the Truckee and North Tahoe regions plan and upgrade their facilities based on growth projections provided by the local government agencies. The provision of electrical service responds to growth authorized by other entities and does not itself promote growth. The intent of the project is to increase reliability of the system and to allow re-routes of power and continued service to customers when part of the system is out of service. Alternative 1 (PEA Alternative) would not involve additional changes in the existing environment which, due to their location or nature, could temporarily or permanently result in conversion of forest land to a non-forest use. Therefore, implementation of Alternative 1 (PEA Alternative) would result in **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

ALTERNATIVE 2 – MODIFIED ALTERNATIVE

DIRECT AND INDIRECT IMPACTS

IMPACT 4.3-1 (Alt.2)	**Conflict with or cause rezoning of forest land, timberland, or TPZ.** Implementation of Alternative 2 (Modified Alternative) would not result in a conflict with existing Placer County forest land/timberland related zoning or cause rezoning of forest land, timberland, or TPZ located in the project footprint (i.e., FOR, FOR-B-X-160 AC. MIN., RF-B-X 10 AC. MIN., and TPZ). Power lines are allowed without land use permit approval under the Placer Zoning Ordinance on FOR, RF, and TPZ lands. Therefore, there would be **no impact**.

This impact would be the same as Impact 4.11-1, (Alt.1) described above for Alternative 1 (PEA Alternative). For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-2 (Alt.2)	**Conversion of forest land to non-forest uses or loss of forest land.** Implementation of Alternative 2 (Modified Alternative) would result in the removal of approximately 56,795 trees in up to 214.6 acres of forest land plus hazard tree border zones as part of project construction and long-term vegetation management in the power line ROW and in new access ways. Permanent tree removal would occur within the 40-foot wide power line ROW (and the 65-foot ROW in double-circuit segments), along new access ways, at substations, and selectively within the hazard tree border zone and includes removal of approximately 34,345 trees within roughly 128.2 acres of forest land (excluding the hazard tree border zone). Tree removal in temporary impact areas would occur within the temporary ROW (12.5 feet in either side of the permanent 40-foot ROW in single-circuit segments), staging areas, and stringing/pulling sites and includes removal of approximately 22,450 trees within roughly 86.4 acres of forest land. Implementation of Alternative 2 (Modified Alternative) would also result in the one-time release of 8,095 $MTCO_2e$ currently sequestered in forest land. Potential future sequestration of approximately 9,141 $MTCO_2e$ over time would also be lost. Considering forest regeneration on up to 21.2 acres of forest land currently maintained in the existing 625 Line ROW would result in a overall permanent forest land impact of 107.0 acres associated with Alternative 2 (Modified Alternative). The 21.2 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,095 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 12,625 $MTCO_2e$ over time. Tree removal would not result in substantial changes to adjacent stand structure or regional forest land composition or distribution. Forest land would not be lost or converted to a non-forest use as project-related activities are compatible uses with forest land zoning designations in the project area. With integration of APMs BIO-1, 21, 23, 26, 28, 36, and 37 into project design and implementation of Mitigation Measures 4.7-4 and 4.7-5, effects on forest land would be further minimized. Therefore, this impact would be considered **less than significant**.

This impact would be similar to Impact 4.11-2 (Alt.1) described above for Alternative 1 (PEA Alternative) except for the quantity, volume, and acreage of tree removal and one-time $MTCO_2e$ released. Implementation of Alternative 2 (Modified Alternative) would result in approximately 128.2 acres of forest land being permanently impacted for construction of ROWs, access ways, and substations. Permanent tree removal, selective tree removal in the hazard tree border zone, and tree removal in temporary impact areas would total approximately 56,795 trees (including roughly 1,695 trees in SEZ areas), which includes roughly 809,255 cubic feet of wood volume (including approximately 16,470 cubic feet in SEZ areas). Tree removal would also result in the one-time release of approximately 8,095 $MTCO_2e$. Potential future sequestration of approximately 9,141 $MTCO_2e$ over time would also be lost. Considering forest regeneration on up to 21.2 acres of forest land currently maintained in the existing 625 Line ROW would result in an overall permanent forest land impact of 107.0 acres associated with Alternative 2 (Modified Alternative) (128.2 acres of permanent impact minus 21.2 acres of regeneration in the abandoned 625 Line ROW). The 21.2 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,095 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 12,625 $MTCO_2e$ over time. For the same reasons described for Alternative 1 (PEA Alternative) (e.g., integration of APMs into the project design and implementation of mitigation measures), this impact would be **less than significant**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-3 (Alt.2)	**Change in existing environment that could result in conversion of forest land to non-forest land.** Project activities are compatible with Placer County zoning and do not result in zoning changes that could promote growth. Although the proposed project responds to growth planned/authorized by others, it does not itself promote development that could result in forest land conversion. Implementation of Alternative 2 (Modified Alternative) would not involve additional changes in the existing environment which, due to their location or nature, could temporarily or permanently result in conversion of forest land to a non-forest use. Therefore, implementation of Alternative 2 (Modified Alternative) would result in **no impact**.

This impact would be the same as Impact 4.11-3 (Alt.1) described above for Alternative 1 (PEA Alternative). For the same reasons described for PEA Alternative (Alternative 1), there would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

DIRECT AND INDIRECT IMPACTS

IMPACT 4.3-1 (Alt.3)	**Conflict with or cause rezoning of forest land, timberland, or TPZ.** Implementation of Alternative 3 (Road Focused Alternative) would not result in a conflict with existing Placer County forest land/timberland related zoning or cause rezoning of forest land, timberland, or TPZ located in the project footprint (i.e., FOR, FOR-B-X-160 AC. MIN., RF-B-X 10 AC. MIN., and TPZ). Power lines are allowed without land use permit approval under the Placer Zoning Ordinance on FOR, RF, and TPZ lands. Therefore, there would be **no impact**.

This impact would be the same as Impact 4.11-1 (Alt.1) described above for Alternative 1 (PEA Alternative). For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-2 (Alt.3)	**Conversion of forest land to non-forest uses or loss of forest land.** Implementation of Alternative 3 (Road Focused Alternative) would result in the removal of approximately 47,450 trees in up to 185.5 acres of forest land plus hazard tree border zones as part of project construction and long-term vegetation management in the power line ROW and in new access ways. Permanent tree removal would occur within the 40-foot wide power line ROW (and the 65-foot ROW for double-circuit segments), along new access ways, at substation locations, and selectively within the hazard tree border zone and includes removal of approximately 24,160 trees within roughly 93.1 acres of forest land (excluding the hazard tree border zone). Tree removal within temporary impact areas would occur within the temporary ROW (12.5 feet in either side of the permanent 40-foot ROW in single-circuit segments), staging areas, and stringing/pulling sites and includes removal of approximately 23,285 trees within roughly 92.4 acres of forest land. Implementation of Alternative 3 (Road Focused Alternative) would also result in the one-time release of approximately 6,705 $MTCO_2e$ currently sequestered in forest land. Potential future sequestration of approximately 7,000 $MTCO_2e$ over time would also be lost. Considering forest regeneration on up to 26.6 acres of land currently maintained in the existing 625 Line

	ROW would result in an overall permanent forest land impact of approximately 66.5 acres associated with Alternative 3 (Road Focused Alternative). The 26.6 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,885 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 13,500 $MTCO_2e$ over time. Tree removal would not result in substantial changes to adjacent stand structure or regional forest land composition or distribution. Forest land would not be lost or converted to a non-forest use as project-related activities are compatible uses with forest land zoning designations in the project area. With integration of APMs BIO-1, 21, 23, 26, 28, 36, and 37 and Mitigation Measures 4.7-4 and 4.7-5, effects on forest land would be further minimized. Therefore, this impact would be considered **less than significant**.

This impact would be the same as Impact 4.11-2 (Alt.1) described above for Alternative 1 (PEA Alternative) except for the quantity, volume, and acreage of tree removal and one-time $MTCO_2e$ released. Implementation of Alternative 3 (Road Focused Alternative) would result in approximately 93.1 acres of forest land being permanently impacted for construction of ROWs, access ways, and substations. Permanent tree removal, selective tree removal in the hazard tree border zone, and tree removal in temporary impact areas would total approximately 47,450 trees (including approximately 1,545 trees in SEZ areas), which include roughly 668,170 cubic feet of wood volume (including approximately 14,770 cubic feet in SEZ areas). Tree removal would also result in the one-time release of approximately 6,705 $MTCO_2e$. Potential future sequestration of approximately 7,000 MTCO2e over time would also be lost. Considering forest regeneration on up to 26.6 acres of forest land currently maintained in the existing 625 Line ROW would result in an overall permanent forest land impact of 66.5 acres associated with Alternative 3 (Road Focused Alternative) (93.1 acres of permanent impact minus 26.6 acres of regeneration in the abandoned 625 Line ROW). The 26.6 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,885 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 13,500 $MTCO_2e$ over time. For the same reasons described for Alternative 1 (PEA Alternative), this impact would be **less than significant**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-3 (Alt.3)	**Change in existing environment that could result in conversion of forest land to non-forest land.** Project activities are compatible with Placer County zoning and do not result in zoning changes that could promote growth. Although the proposed project responds to growth planned/authorized by others, it does not itself promote development that could result in forest land conversion. Implementation of Alternative 3 (Road Focused Alternative) would not involve additional changes in the existing environment which, due to their location or nature, could temporarily or permanently result in conversion of forest land to a non-forest use. Therefore, implementation of Alternative 3 (Road Focused Alternative) would result in **no impact**.

This impact would be the same as Impact 4.11-3 (Alt.1), described above for Alternative 1 (PEA Alternative). For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

ALTERNATIVE 4 – PROPOSED ALTERNATIVE

DIRECT AND INDIRECT IMPACTS

IMPACT 4.3-1 (Alt.4)	**Conflict with or cause rezoning of forest land, timberland, or TPZ.** Implementation of Alternative 4 (Proposed Alternative) would not result in a conflict with existing Placer County forest land/timberland-related zoning or cause rezoning of forest land, timberland, or TPZ located in the project footprint (i.e., FOR, FOR-B-X-160 AC. MIN., RF-B-X 10 AC. MIN., and TPZ). Power lines are allowed without land use permit approval under the Placer Zoning Ordinance on FOR, RF, and TPZ lands. Therefore, there would be **no impact**.

This impact would be the same as Impact 4.11-1 (Alt.1), described above for Alternative 1 (PEA Alternative). For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-2 (Alt.4)	**Conversion of forest land to non-forest uses or loss of forest land.** Implementation of Alternative 4 (Proposed Alternative) would result in the removal of approximately 47,100 trees in up to 184.4 acres of forest land plus hazard tree border zones as part of project construction and long-term vegetation management in the power line ROW and in new access ways. Permanent tree removal would occur within the 40-foot wide power line ROW (and a 65-foot ROW for double-circuit segments), along new access ways, at substation locations, and selectively within the hazard tree border zone and includes removal of approximately 24,050 trees within roughly 92.8 acres of forest land (excluding the hazard tree border zone). Tree removal in temporary impact areas would occur within the temporary ROW (12.5 feet in either side of the permanent 40-foot ROW in single-circuit segments), staging areas, and stringing/pulling sites and includes removal of approximately 23,055 trees within roughly 91.6 acres of forest land. Implementation of Alternative 4 (Proposed Alternative) would also result in the one-time release of approximately 6,680 $MTCO_2e$ currently sequestered in forest land. Potential future sequestration of approximately 6,966 $MTCO_2e$ over time would also be lost. Considering forest regeneration on up to 26.7 acres of land currently maintained in the existing 625 Line ROW would result in an overall permanent forest land impact of 66.1 acres associated with Alternative 4 (Proposed Alternative). The 26.7 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,900 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 13,385 $MTCO_2e$ over time. Tree removal would not result in substantial changes to adjacent stand structure or regional forest land composition or distribution. Forest land would not be lost or converted to a non-forest use as project-related activities are compatible uses with forest land zoning designations in the project area. With integration of APMs BIO-01, 21, 23, 26, 28, 37 into project design and implementation of Mitigation Measures 4.7-4 and 4.7-5, effects on forest land would be further minimized. Therefore, this impact would be considered **less than significant**.

This impact would be the same as Impact 4.11-2 (Alt.1) described above for Alternative 1 (PEA Alternative) except for the quantity, volume, and acreage of tree removal and one-time $MTCO_2e$ released. Implementation of Alternative 4 (Proposed Alternative) would result in approximately 92.8 acres of forest land being permanently impacted for construction of ROWs, access ways, and substations. Permanent tree removal, selective tree removal in the hazard tree border zone, and tree removal in temporary impact areas would total approximately 47,100 trees (including roughly 1,540 trees in SEZ areas), which include approximately 666,075

cubic feet of wood volume (including roughly 14,760 cubic feet in SEZ areas). Tree removal would also result in the one-time release of approximately 6,680 $MTCO_2e$. Potential future sequestration of approximately 6,966 MTCO2e over time would also be lost. Considering forest regeneration on up to 26.7 acres of forest land currently maintained in the existing 625 Line ROW would result in an overall permanent forest land impact of 66.1 acres associated with Alternative 4 (Proposed Alternative) (92.8 acres of permanent impact minus 26.7 acres of regeneration in the abandoned 625 Line ROW). The 26.7 acres of forest land regeneration in the existing 625 Line ROW would sequester approximately 3,900 $MTCO_2e$ over time and re-growth within temporarily-impacted areas would sequester approximately 13,385 $MTCO_2e$ over time. For the same reasons described for Alternative 1 (PEA Alternative), this impact would be **less than significant**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-3 (Alt.4)	**Change in existing environment that could result in conversion of forest land to non-forest land.** Project activities are compatible with Placer County zoning and do not result in zoning changes that could promote growth. Although the proposed project responds to growth planned/authorized by others, it does not itself promote development that could result in forest land conversion. Implementation of Alternative 4 (Proposed Alternative) would not involve additional changes in the existing environment which, due to their location or nature, could temporarily or permanently result in conversion of forest land to a non-forest use. Therefore, implementation of Alternative 4 (Proposed Alternative) would result in **no impact**.

This impact would be the same as Impact 4.11-3 (Alt.1) described for Alternative 1 (PEA Alternative). For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

DIRECT AND INDIRECT IMPACTS

IMPACT 4.3-1 (Alt.5)	**Conflict with or cause rezoning of forest land, timberland, or TPZ.** Implementation of Alternative 5 (No Action/No Project Alternative) would not have the potential to result in conflicts with existing zoning or cause rezoning of forest land, timberland, or TPZ because existing facilities would not be changed and new facilities would not be constructed. **No impact** would occur.

Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented and no new or upgraded power lines or related facilities would be constructed, no new or improved access ways would be built, and no expansion of the existing ROW would occur. Actions associated with this alternative would be limited to existing operations and maintenance and completion of deferred ROW maintenance, which would be in compliance with existing regulations (CPUC General Order 95) and approved plans and permits. Maintenance access would be gained via existing easements and rights-of-way. No conflicts with existing zoning would occur and no rezoning of forest land, timberland, or TPZ would occur. Therefore, this alternative would have **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-2 (Alt.5)	**Conversion of forest land to non-forest uses or loss of forest land.** Implementation of Alternative 5 (No Action/No Project Alternative) would not result in the conversion of forest land to non-forest uses as no new power lines, access roadways, or related facilities would be constructed. Ongoing vegetation management within the existing ROW would continue under existing regulations and previously-approved management plans and permits. **No impact** would occur.

Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented and no new or upgraded power lines or related facilities would be constructed, no new ROW or access roadways would be built, and no expansion of the existing ROW would occur. Actions associated with this alternative would be limited to existing operations and maintenance and completion of deferred ROW maintenance, which would include removal of trees in the existing ROW. While tree removal would occur, it would be conducted in compliance with existing regulations (CPUC General Order 95) and approved plans and permits. Maintenance access would be gained via existing easements and rights-of-way. No conversion or loss of forest land would occur; therefore, this alternative would have **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

IMPACT 4.3-3 (Alt.5)	**Change in existing environment that could result in conversion of forest land to non-forest use.** No new power lines, access roadways, or related facilities would be constructed under Alternative 5 (No Action/No Project Alternative) and vegetation management within the existing ROW would continue under existing regulations and previously-approved management plans and permits. Alternative 5 (No Action/No Project Alternative) does not include any features that would indirectly result in the conversion of forest lands. **No impact** would occur.

Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented and no new or upgraded power lines or related facilities would be constructed, no new or improved access ways would be built, and no expansion of the existing ROW would occur. Actions associated with this alternative would be limited to existing operations and maintenance and completion of deferred ROW maintenance, which would be in compliance with existing regulations (CPUC General Order 95) and approved plans and permits. Maintenance access would be gained via existing easements and rights-of-way. Alternative 5 (No Action/No Project Alternative) does not include any features that would indirectly result in the conversion of forest lands. Therefore, this alternative would have **no impact**.

MITIGATION MEASURES

No mitigation measures are required.

CUMULATIVE IMPACTS

The action alternatives result in no impact related to conflicts with or causing rezoning of forest land, timberland, or TPZ and changes in the existing environmental that could result in conversion of forest land to a non-forest use. Therefore, the action alternatives could not contribute to any cumulative impact related to

these issues. The following analysis focusses on the conversion of forest land to non-forest uses and loss of forest land from implementation of the action alternatives.

The geographic scope for analyzing the cumulative effects on forest land consists of the Truckee-Tahoe Region. As discussed above, the action alternatives would result in temporary forest land impacts (i.e., trees removed during construction but trees allowed to regrow) on 86.4 to 97.9 acres of forest land and permanent forest land impacts (i.e., the permanent conversion of forest land to another use or trees removed and not allowed to grow back due to ROW vegetation management) on 128.2 to 92.8 acres of forest land habitats (see Table 4.3-1, Forest Land Conversion Acres for Project Alternatives). However, when considering the restoration of forest habitat resulting from the abandonment of the existing 625 Line ROW, the action alternatives result in a net reduction in forested habitat of 66.1 to 107 acres. Although trees would be removed from a relatively large total area, this does not necessary constitute a permanent conversion of forest land to a non-forest use. The presence of the project does not preclude the ongoing growth of trees in the power line right-of-way and access ways, as evidenced by the need for ongoing vegetation management. If the project were moved to a new location at a later date, trees would return to the vacated right-of-way. This return of trees to an abandoned right-of-way is expected to occur as a result of the proposed project where the existing 625 Line is removed and vegetation management ceases in the former right-of-way.

Trees removed as part of the action alternatives are only a small proportion of the amount of forest land present in the Truckee-Tahoe region (i.e., less than 1 percent). Further, tree removal would primarily occur within the narrow electric line ROW and access ways, which would not result in substantial changes in stand structure or composition or in the distribution of forest land in the project area overall. After installation of the proposed project, the forest would continue to function, providing timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. As described in Section 4.7, Biological Resources, APMs-BIO-1, 21, 23, 26, 28, 36, and 37 and Mitigation Measure 4.7-4, the permanent and temporary removal of trees would be minimized to the extent feasible, forest land habitat would be restored to pre-project conditions in temporary construction areas, and the applicant compensates for unavoidable losses. Therefore, implementation of any of the action alternatives would not substantially reduce the size, continuity, or integrity of forest land in the project area or interrupt the natural processes that support forest land.

Conversion of forest land to non-forest uses has occurred in the project region as a result of habitat conversions, residential and commercial development, utility and infrastructure development, and other compounding factors, such as lack of regeneration and pressures from invasive species. Thus, there is an existing significant cumulative impact associated with loss of forest land. However, for the reasons stated above, the tree removal and the prevention of tree growth in vegetation management corridors associated with the action alternatives would not result in a cumulatively considerable incremental contribution to this significant cumulative impact.

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